

Remarks

1. The Examiner's reconsideration of the application is urged in view of the amendments in the claims and the arguments given below.

2. Rejections of claims 1-10, 15-18, 20 and 23-26 under 35 USC § 103.

In the final Office Action, page 4, claims 1, 3, 4, 7-18 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Greene et al. (USPN 6 020 868) in view of Someya (USPN 5 396 257) and further in view of Cok et al. (USPN 7 161 566). This is also repeated in the Examiner's Answer.

Claim 1 has been amended by incorporating the following features:

- “the controlling comprising control at a plurality of control levels” (based on the specification page 3, lines 27-28);
- “passing the first subdivision target values to the next higher control level” (based on the specification page 20, lines 1-4);
- “taking into account the first subdivision target values” (based on the specification page 5, lines 6-11).

Claims 2 and 3 were amended by incorporating analogous features.

Claim 1 has been further amended by deleting the feature “wherein setting the emissive devices and setting the first subdivisions includes initial and periodic calibration”.

The same feature has been deleted in claim 24.

Regarding claim 1

In the Office Action it is admitted that “...*Greene does not expressly disclose a method of matching color of a tiled display including “for each of the first subdivisions, setting the emissive devices so that each of said first subdivisions is optimized with respect to a first subdivision target value for that first subdivision, and after setting the emissive devices, for the emissive*

display, setting the first subdivisions so that said emissive display is optimized with respect to an emissive display target value for said emissive display.” (see the communication, the bridging paragraph of pages 4 and 5).

Attention is further drawn to the following facts:

- there is also no implicit disclosure in Greene of the limitations, mentioned above;
- the disclosure in Greene is limited to color matching;
- the limitations added in the amended claim 1 (“the controlling comprising control at a plurality of control levels”, “passing the first subdivision target values to the next higher control level” and “taking into account the first subdivision target values”) are also not disclosed in Greene because Greene is limited to color matching within a single level (the matching between the regions into which the display is subdivided: see col. 7, lines 17-35).

From the statement in the Office Action and from the above, it can be seen that only the introductory part of claim 1 is disclosed in Greene; this part (part A) consists of:

“A method for controlling a tiled large-screen emissive display, said emissive display comprising at least a plurality of first subdivisions, each of said first subdivisions comprising a plurality of emissive devices”.

In the Response to Arguments (point 10 on page 10 of the November 17, 2009 Examiner’s Answer), the Examiner states in relation with the disclosure of setting the emissive devices by Greene:

“The Examiner respectfully disagrees and Greene is setting the display devices. The phrase ‘setting the emissive devices’ is a broad term and contrary to the arguments, does not distinguish setting of the display to be only of parameters of the display and not setting the video data signals or other types of setting that can be performed on individual pixels of a display device.”

Applicant respectfully disagrees. Indeed, in Greene it is explicitly said : “Color-matching methods may be classified into two broad categories, transformation of data and display set-up” (col.2, lines 51-52) and further, when discussing set-up techniques “These techniques do not

change or transform the input video data; rather, they change the display characteristics (such as gain, offset and optical density).” (col.2, lines 58-61). The question could also be raised how a video signal, which is a signal with fluctuating amplitude, can be set?

From this it can be deducted directly that there is an essential difference between video data transformation (used by Greene, see col. 3, lines 6-10) and setting emissive devices, as claimed in the present invention.

Later in the Response to Arguments, the Examiner further states:

“Further, Greene provides a target value based on the fact that Greene sets the display devices to achieve color purity and to correct non-uniformities of the display (abstract). Greene sets the display devices to achieve a tiled display having matched brightness levels across the entire display (col.4, lines 30-32).”

Applicant respectfully disagrees, in particular with the use of the terms “target value” and “sets”. According to the wording in the abstract of Greene, “the invention features …a… display that has color-matching between the tiles, which is accomplished by a direct transformation of video data through values stored in tables”. The abstract does not mention setting of the display devices and also not ” a target value”. The method proposed by Greene is described in col. 7, lines 16-35 and illustrated in Figure 16. This method consists in measuring the luminance output corresponding to a number of input signal levels for each primary color in each region. The spread of the respective output signals is represented in the vertical lines above the regions 1 to 4 in the diagram of Figure 16. The common part of these output signals (“luminance intersection”) is taken as the region of the variation of the output signals and the input video signals are transformed (in a certain way amplitude compressed) so that the output signals are situated within this region. The method of Greene is thus not based on a “target value” to which the video signals are transformed, but is based on a plurality of values to which the video signals are transformed depending on the amplitude level of the video signal at a given moment. This confirms that the only part of claim 1 that is disclosed by Greene is the part A, indicated above, as already implicitly admitted in the final Office Action.

In relation with Someya, the Examiner states in the final Office Action (page 5, 2nd paragraph): “*Someya discloses a method of matching the output of a tiled display device in which each display device is set to optimize the display of the individual display device and then matching the corrected individual display devices to completely match the tiled display device (col. 4, lines 37-59).*”

Applicant respectfully disagrees. In Someya there is no disclosure of optimizing the display of the individual display device. Indeed, Someya is first of all correcting the luminance shading between the central part of a CRT and the peripheral part of that CRT and this correction is based on an assumed function representing this shading e.g. a parabolic wave (Fig. 5). The CRT is divided in a number of blocks and a look-up table (LUT) is determined for each of the blocks. The incoming video data for each of the blocks is then corrected by the factors in the corresponding LUT-table. Such processing of video signals cannot be called “optimizing” because it is based on an assumed function, independent of the condition of the phosphor layer at a certain pixel. As in Greene, Someya does not disclose “setting” of an emissive device or of any subdivision, but Someya discloses the transformation of the video data (see also the arguments given in relation with Greene above). By such a transformation a **matching** (term used in the final Office Action) of the luminance within each CRT is obtained and a **matching** between the different CRT’s, but not an optimization with respect to a target value.

In the final Office Action, it is implicitly admitted that Someya does not disclose the limitation of claim 1 “*for each of the first subdivisions, setting the emissive devices so that each of said first subdivisions is optimized with respect to a first subdivision target value for that first subdivision*” (limitation B) because on top of page 12 of the Examiner’s Answer, the Examiner states: “*While Someya cannot teach making individual ‘settings’ to a device that only controls a single pixel on the display, Someya teaches the concept of setting a display device so that light emitting regions across the entire display match each other*”.

As limitation B of claim 1 is not disclosed by Someya and this limitation is also not disclosed by Greene, there is no disclosure of this limitation in the applied prior art.

Limitation C of claim 1 (“*setting the first subdivisions so that said emissive display is optimized with respect to an emissive display target value for said emissive display*”) is also not disclosed by Someya or Greene, because there is no ‘setting’ of any subdivision of a tiled display in Someya or Greene.

The limitations added in amended claim 1 are also not disclosed in Someya or Greene or in any other cited reference. In this respect, it appears important to understand a further important difference between the present invention and Someya. In Someya, the adjustment of the luminance of the three CRT’s to the luminance of the fourth CRT is based on a measurement or a visual evaluation (see Someya Fig. 13 and col. 13, lines 4-26). Contrary to the method of claim 1, the CRT’s in Someya do not have any intelligence to store their target values (implicitly needed for the method of claim 1) and to communicate these values to a higher level. Amended claim 1 thus distinguishes from the prior art and only part A of claim 1 (see above) is known from the prior art.

In the final Office Action, the Examiner further states:

“At the time of invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Greene and Someya to produce a method of controlling a tiled display device for correcting the output of the display device.” (page 5, begin of 3rd paragraph) and further, in relation with the motivation to combine both references:

“The motivation would be to produce a tiled display device with reduced luminance shading and color shading between the plurality of display units (Someya: col. 2, lines 39-42)”. (page 4, end of 3rd paragraph).

Applicant respectfully disagrees. Indeed, Greene already provides a subdivided display with “an image of uniform color uniformity”, thus in principle, without any shading between the subdivisions, so there is no reason why the person of ordinary skill should try to modify the method of Greene by applying the method of Someya. On top of that, Someya describes a method to be used with CRT displays which have well known shading at the edges of the display due to the longer path length of the electrons hitting the fluorescent screen at this area, which

shading does not occur in the matrix-addressed displays, discussed in Greene. It is thus clear that Someya teaches away from Greene. There is also no indication or reason that the method of Someya gives a better result than the method of Greene.

But even supposing that the person of ordinary skill were to combine the teachings of Greene and Someya, such a combination will not lead to a method as described in claim 1 because the major limitations of amended claim 1, as discussed above, are not disclosed in Greene or in Someya.

Therefore, it is submitted that amended claim 1 is non-obvious in view of the prior art.

Regarding claim 24

Claim 24 describes a control unit having analogous limitations as amended claim 1 (with the exception of the limitation “passing the first subdivision target values to the next higher control level”).

Therefore, the same arguments in relation to amended claim 1 apply to claim 24 and claim 24 is thus also submitted to be non-obvious in view of the prior art.

Regarding claims 2-10, 17-18, 20, 23 and 25-26.

Claims 2-10, 17-18, 20, 23 and 25-26 are all claims depending directly or indirectly on an allowable claim, and they are thus also submitted to be allowable.

Regarding claims 15 and 16.

Cok does not overcome the deficiencies of Greene and Someya, discussed above. Therefore claims 15 and 16, which depend either directly or indirectly from allowable independent claims, are also submitted to be allowable.

3. Rejections of claims 11-14 under 35 USC § 103.

In the Office Action, page 10, claims 11-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Greene et al. (USPN 6 020 868) in view of Someya (USPN 5 396 257) and in

view of Cok et al. (USPN 7 161 566) as applied to claim 3 above and further in view of Miller et al. (USPN 7 184 067).

Miller does not overcome the deficiencies of Greene and Someya, discussed above. Therefore claims 11-14, which depend either directly or indirectly on allowable independent claims, are also submitted to be allowable.

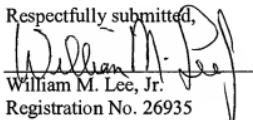
4. Conclusion

Applicants submit that the claims distinguish from the prior art and are in condition for allowance, and such action is requested.

This amendment and the Request for Continued Examination are timely, as the reply brief was due on Saturday, January 17, 2010, and Monday, January 18, 2010 was a holiday.

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Respectfully submitted,


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